

Turning the Tide

on runoff pollution

Spring 2007

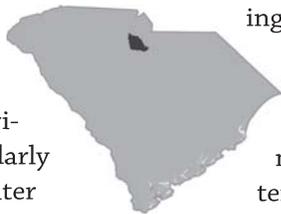
SC DHEC's Bureau of Water

Heading Towards Success: Rocky Creek Watershed

By Meredith Barkley, DHEC-State Nonpoint Source Coordinator

The Rocky Creek watershed contains almost 136,000 acres located in Chester and Fairfield counties. This watershed is mostly forested land, but has a significant amount of agricultural land use, particularly in cattle pasture. Four water quality monitoring sites were identified as being impaired for fecal coliform bacteria and were the basis for the development of a TMDL in this watershed.

Research Planning, Incorporated (RPI) conducted a preliminary 319-funded project in Rocky Creek to identify and mitigate sources of fecal coliform. RPI now leads the 319 TMDL implementation efforts in Rocky Creek. This involves the



placement of BMPs including fencing cattle out of streams, providing alternate water sources, and repairing septic tanks.

Following this effort, water quality improvements have been observed at 3 monitoring sites in the watershed. These stations have improved from non-support to partial support comparing the 2004 and 2006 303(d) assessment data. Stations with over 25% of samples exceeding the fecal coliform standard are considered non-supporting, while stations with 11% to 25% of samples exceeding the standard are considered partially supporting. Only stations with 10% or less of samples exceeding

the standard are considered fully supporting recreational uses. The goal is for all four Rocky Creek stations to fully reach water quality standards for fecal coliform.

The work in this watershed has benefited not only the quality of the water, but also the quality of local farmers' herds, fields, and lives. Sharon Furr, owner of a cattle operation in Blackstock, has been an enthusiastic participant in the projects. Furr noted that the 319 partnership "allowed our small farm to access grant

funds needed in the way of reducing the impact of our cattle operation on creeks and streams that flow from our property." Her work was so outstanding that the farm was used as a demonstration site and she was presented with the Chester County Conservationist of the Year Award.

Wayne Logan, another Rocky Creek farmer, sums it up well: "The 319 program provided needed funds and incentives to improve the overall profitability and survival of this family farm. The new fencing allowed me to increase

the number of beef cows I can contain in a given area to better utilize the acreage and pasture grasses available and in return increase income.

The new cross fencing and gate system now permits



An alternative water source for cattle is one example of a BMP.

me to spend time and money on herd quality and improved pasture grass management in sections."

These are just two of the many landowners who have directly benefited from this project. As Rocky Creek and its tributaries continue to progress towards meeting water quality standards, many others will reap the rewards of participating in environmental stewardship.

For more information, contact Meredith Barkley at (803) 898-4222 or e-mail her at barklemb@dhec.sc.gov.

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Hobby Farms Impact on Water Quality

By Rebecca Haynes, DHEC-Watershed Outreach Coordinator

When referring to nonpoint sources of water pollution, professionals often list the “usual suspects.” On this list, livestock operations usually figure prominently, particularly in the rural watersheds of South Carolina. This “usual suspect” is generally characterized by a picture of rolling pastures dotted with several hundred head of cattle owned by a traditional farmer. But is it really only the larger livestock operations that can have an impact on water quality? Similar to the argument about residential pet waste, the cumulative impact of small livestock operations can have a significant effect on water quality if land use and waste disposal operations are not managed properly.

Managing your small-scale farm to protect the health of your animals and the environment can help prevent water quality problems.

What are hobby farms?

A hobby farm is a small-scale agricultural operation, whether involved primarily in gardening, backyard livestock, or part-time farming. Hobby farming generally does not provide or is not expected to provide the primary source of income for the farmer. Horse enthusiasts often dominate the population of hobby farmers. Many of these farmers may also engage in other agricultural activities or own a variety of other animals such as goats, chickens, cattle or even bison. The population, therefore, spans many diverse cultural and socioeconomic backgrounds.

Making the connection to water quality

When multiple hobby farms are located in one area, there is the potential for them to negatively impact water and land resources. Along with

the general growth in population, the State of South Carolina is experiencing growth amongst hobby farmers, particularly horse owners. According to the South Carolina Department of Agriculture’s survey, 84,300 horses, mules, and donkeys reside in the State on 260,000 acres

of land. While horse manure is not generally thought to be a public health concern, because of the increase in proximity to people and surface waters it is increasingly important to manage waste and land use appropriately. The increase of bacteria and nutrients in runoff from hobby farms could further pollute our lakes, rivers, and streams.

Finding workable solutions

The installation of best management practices (BMPs) adds to property value and promotes herd health while protecting water quality. The use of BMPs does not have to be costly, and slight changes in behavior or operations can often achieve the desired results.

Several practices improve the efficiency of horse/livestock management while also protecting water quality. These include:

- installation of heavy use areas
- proper siting of confined production areas
- use of riparian buffers
- managing access to surface waters (i.e. fencing out cattle)
- nutrient management planning
- rotational grazing

Further information and/or assistance for implementing these practices can be obtained from your County Extension Agent. To locate your agent, please visit: <http://virtual.clemson.edu/groups/extension/counties1.htm>.

NRCS small farmer assistance

The U.S. Department of Agriculture’s Natural Resource Conservation Service (USDA – NRCS) offers financial assistance programs to farmers installing and implementing conservation practices. Traditionally, small-

scale farmers have not participated in nor been eligible for cost-share assistance through the Environmental Quality Incentives Program (EQIP). NRCS is therefore offering cost-share funds for Small Scale and Limited Resource Farmers to improve outreach and participation in their programs.

Program highlights and guidelines

- Farmers must have a state average of 197 acres or less per operation
- Applicants must not have participated in NRCS programs for the past 10 years (excluding the 2005 Small Farmer Initiative).
- The income limit eligibility is \$63,000 adjusted gross family income (based on the last two years of income tax returns).
- Priority will be given to applicants addressing the following resource concerns: surface water quality, water quantity, and soil quality.

Further information on NRCS assistance for Small Scale Farmers can be found at www.sc.nrcs.usda.gov/programs/eqip/Small_scale_farmer2007.html or by contacting your local NRCS office at <http://offices.usda.gov>.

For more information, please contact Watershed Outreach Coordinator, Rebecca Haynes at (803) 898-4211 or e-mail her at haynesrl@dhec.sc.gov.



Fencing out cattle from surface waters can reduce bacteria levels.



Livestock facilities located too close to the lakefront can increase bacteria.

Watershed Minute

Get Involved in Your Watershed!

By Roger Hall, DHEC-Watershed Manager

It's springtime, the weather is warming up and new life abounds. With the change in seasons, South Carolinians everywhere are becoming more active and so are your DHEC watershed managers. We have several new projects underway that aim to improve water quality around the state and endless ways for the general public, local organizations, and other agencies to get involved. So get out a pen and paper and learn how you can help.

One of the first steps in improving water quality in the state is to know which watershed you live, work, or play in and the issues associated with that watershed. The following website shows the 8 major watersheds in SC and provides links to local water quality concerns: www.scdhec.gov.

[gov/environment/water/shed/](http://www.scdhec.gov/environment/water/shed/). Just click on the map and follow the links to learn about your particular area.

The second step is to know the water quality impairments in your watershed. Take note of the monitoring stations listed for your area and check the following link to see if any are impaired: www.scdhec.gov/environment/water/tmdl/index.htm. The 303(d) list is compiled every 2 years by DHEC and lists the impairments found throughout the state. The 1998 through 2006 303(d) lists are found on the above page. See where the current and historical problem areas are by comparing these lists.

Next, determine if a TMDL has been developed for your impaired stations by visiting www.scdhec.gov/environment/water/tmdl/tmdlsc.htm. *Continued on page 4....*



Carol Copeland

Hi! My name is Carol Copeland and I am the new Catawba and Edisto basins watershed manager for DHEC. I graduated from the University of South Carolina with a Bachelor of Science in Biology and a minor in Chemistry.

I am looking forward to improving the water quality in my basins and throughout the state by working with stakeholders in developing and implementing TMDLs. I am excited about the opportunities ahead of me.

If you have any questions or concerns about water quality in the Catawba or Edisto basins, please feel free to contact me at (803) 898-4203 or e-mail me at copelaca@dhec.sc.gov.

Getting the Word Out

The Scoop on Pumpouts

By Lorianne Riggan, DNR-Clean Vessel Act Coordinator

Would you continue to visit your favorite beach or go for cruises on the local lake if the water there was filled with sewage? No way! In 1992, the United States Congress said "no way" to sewage in our waters with the Clean Vessel Act, which provides the state with the funds to educate the public about the consequences of discharging sewage from boats. It also provides federal aid for marinas up to 75% of the approved costs to install sewage pumpout facilities.

Why worry about your waste?

Improper disposal of sewage, whether treated or raw, can impose major impacts on the environment. Fish and other aquatic organisms need a certain amount of dissolved oxygen to survive. Bacteria decompose the excess sewage and in doing so utilize a large amount of oxygen. Lower dissolved oxygen levels in the water causes altered behavior,

reduced growth, adverse reproductive effects and mortality of aquatic species.

Sewage not only harms fish, but humans as well.

The release of raw sewage, or poorly treated sewage, can transmit waterborne diseases such as typhoid and cholera through microorganisms from the human digestive tract. People may also be at risk when they enjoy shellfish, like scallops or oysters. Shellfish are filter feeders that ingest tiny food

particles from the water through their gills and directly into their stomachs. If sewage is present in the water, then the shellfish ingest it too. When people ingest shellfish tainted with sewage, they are also taking in dangerous fecal contaminants and disease.

What can you do to help?

To prevent the possible dangers that sewage can cause to humans

and the environment, boaters can use portable toilets and dispose of sewage at designated dump stations. Boaters should also make use of onshore restrooms when available. In addition, boaters with toilets installed aboard their boats should always comply with the law by properly installing Marine Sanitation Devices (MSDs) on boats that feature onboard toilets. Remember it is illegal to discharge in South Carolina's

No Discharge Zones (NDZ) so boaters should always use pumpout facilities.

Any excessive amount of sewage in the waters of South Carolina isn't just gross, it can have severe impacts on our water quality. The Clean Vessel Act was designated to target this problem and inform the public.

For more information, visit our website at www.dnr.sc.gov/cleanvessel/ or contact Lorianne Riggan at RigganL@dnr.sc.gov or (803)360-0034. For the coast, contact: Scott Meister at MeisterS@dnr.sc.gov or (843) 953-9062.



KEEP OUR
WATER CLEAN—
USE PUMPOUTS

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...Get Involved in Your Watershed!

A TMDL, or Total Maximum Daily Load, is the calculation used by DHEC to determine the capacity of the waterbody to handle pollutants as well as the amount of pollutant reduction needed to meet water quality standards. Once a TMDL is developed, watershed managers seek out local groups to implement practices that will ultimately show measurable improvements.

Finally, contact your watershed manager to find out if there is a current or future project that you can become involved with implementing, to report water quality concerns in your area, or to learn more about what you can do to help improve water quality. Watershed assignments were reorganized recently, so to determine the manager for your watershed visit: www.scdhec.gov/environment/water/shed/contact.htm.

So get out, enjoy the warm weather, and help prevent and reduce water quality impacts in your local watershed. For more information, please contact Roger Hall at (803) 898-4142 or e-mail him at hallrp@dhec.sc.gov.

News to Use

New 2007 Fish Consumption Advisories Booklet!!

The 2007 Fish Consumption Advisories booklets are now available. The booklet gives recommendations on safe amounts of fish that can be eaten from the waters of South Carolina. It also advises women who are pregnant, nursing, or can become pregnant and children under 14 to be especially careful with the types of fish they eat and the quantity. If you would like a copy, please call 1-888-849-7241 toll-free or please contact Cheryl Salomone at (803) 898-4187 or e-mail her at salomocm@dhec.sc.gov.

Ice Cream- An Educational Tool!

In Maine, The Friends of the Cobossee Watershed are using a floating ice cream boat, the Otter II, to reach out to landowners and lake users about what they can do to improve water quality. While the crew sells ice cream to the water-loving public, they provide information about preventing runoff pollution. Each week the Otter II is transferred to a different lake in the watershed. The program has enrolled more than 1,000 members, and has also educated thousands on improving water quality in their watershed. For more information, visit www.watershedfriends.com/otter.html.



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